



Tikly, L. P. (2012). Reconceptualising TVET: Towards a social justice and capabilities approach. Paper presented at Human Development and Capabilities Conference, Jakarta, Indonesia.

Early version, also known as pre-print

[Link to publication record in Explore Bristol Research](#)  
PDF-document

## University of Bristol - Explore Bristol Research

### General rights

This document is made available in accordance with publisher policies. Please cite only the published version using the reference above. Full terms of use are available:  
<http://www.bristol.ac.uk/pure/about/ebr-terms.html>

# **Reconceptualising TVET and Development: towards a capabilities and social justice approach**

Background paper for the World Report on TVET

Leon Tikly

## **Abstract**

The paper considers the relevance of three approaches for understanding the role of TVET in relation to development. It starts by reviewing existing, dominant approaches, namely the human capital and a sustainable development approaches. Each is considered in relation to their underlying view of human development; how TVET is defined and understood in relation to its role in development; and key policy issues and priorities for national governments and donors. It will be argued that whilst the two approaches offer valuable insights into TVET's role in relation to different aspects of human development they are also partial in addressing key issues facing the TVET sector. The paper then outlines a human capabilities approach based on the work of Amartya Sen and Martha Nussbaum. It is argued that such an approach has the potential to develop and extend existing approaches in ways that are more relevant for facing contemporary challenges. The paper concludes by suggesting a model of TVET and development that whilst based within a capabilities approach incorporates aspects of dominant approaches.

## **Introduction**

Technical and Vocational Education and Training (TVET) has historically played a key part of UNESCO's mandate for education. Other organizations including the World Bank have begun to place a greater priority than has previously been the case on the skills agenda (World Bank, 2011). Yet these organisations often provide overlapping but different rationales for investing in TVET. In the case of financial institutions such as the World Bank, for example, policies to promote TVET are principally seen as an investment in human capital and as a means for supporting economic growth. The underlying view of development in operation is an economic one in which 'progress' is measured in relation to levels of economic growth and prosperity. UNESCO's long standing interest in TVET on the other hand has been linked to a more human-centered view of TVET as a means for supporting sustainable development.

These underlying views are, however, rarely made explicit. The aim of the paper is to consider different perspectives for understanding the role of TVET in relation to human development. It should be emphasized that each perspective is considered as an 'ideal type' and that in reality key policy documents of organisations such as the World Bank and of UNESCO including, for example, the Bonn declaration (UNESCO, 2004) are informed by elements of both approaches albeit with differing degrees of emphasis. It is argued that whilst both approaches offer valuable insights there are also limitations. Thus, whilst human capital approaches emphasise the

instrumental role of skills in relation to economic growth they often lack a normative basis and do not take account of the environmental, social or cultural dimensions of skills. The sustainable development approach on the other hand has been key in addressing some of these omissions through emphasising the role of skills to support economic, social and environmental sustainability. More recently, however, new concerns have begun to dominate the debate about TVET. These include a recognition of an increasing skills gap within and between countries as an aspect of globalization and a growing recognition of different forms of marginalization based for example, on social class, rurality, gender and ethnicity. These in turn highlight the importance of context in overcoming disadvantage and in defining the nature of valued skills.

Building on the work of Amartya Sen and Martha Nussbaum the paper outlines an alternative approach that builds on and extends existing approaches but is based on the concept of human capabilities and informed by principles of social justice. In this approach TVET is seen as a means for supporting the development of a range of capabilities that are conceived as opportunities to develop functionings that individuals, their communities and society at large have reason to value. Rather than being universal in nature, capabilities are defined in relation to context and can potentially contribute to economic, social, political, environmental and cultural development. Indeed, the development of valued capabilities and functionings is seen as a good for human development in itself. Crucially, capabilities need to be defined through processes of informed public debate and it is this democratic dimension that is seen to underpin the capabilities approach. The paper finishes by considering the implications of the three approaches for TVET and development.

## **TVET and human capital**

Anderson (2009) argues that TVET first emerged in the context of the industrial revolution in Europe and North America as part of a philosophy of ‘productivism’. He argues that the quest for efficiency and profit was the principal dynamic of the new industrial mode and that in this context TVET was perceived to have a fundamentally instrumental function in providing the necessary human capital required by industry. Human capital theory has been the dominant approach adopted by global financial institutions such as the World Bank, IMF and the ILO and by national governments although human capital theory has changed in form and emphasis over time (see for example, Anderson, 2009, Ilon, 1994, King, 2009, King & Palmer, 2008, Robertson *et al.*, 2007b, Tikly, 2004, Unterhalter, 2007). The central rationale for investing in education including TVET within a human capital framework has remained the same, however, and lies in the contribution that different kinds of skills can make to economic growth (World Bank, 2011, DfID, 2008). Within this approach Gross Domestic Product (GDP) is understood as the most significant indicator of development. The perceived role of education and skills in relation to economic growth, however, has shifted over the years. The very first World Bank loan for education, granted in 1963, was for TVET, which accounted for about 40% of all educational loans in Sub-Saharan Africa up until the early 1980s (McClean, 2011). At that time investment in TVET was considered to be a crucial component of manpower planning. The early prioritisation of TVET was criticised on a number of grounds. Some pointed to the ‘vocational school fallacy’ (Foster, 1965). Based on studies in the Gold Coast in Ghana, Foster questioned the link between the vocationalisation of education and the needs of the labour market. He argued that the academic/ vocational

divide, created under colonialism remained intact in the post-independence period and that academic qualifications were perceived to lead to more and better opportunities in the labour market (see below). There was a disjuncture between the needs dictated by manpower planning and the realities of labour markets. Economists working within the World Bank also began to question the cost-effectiveness of vocational education and the rate of return to investments in TVET (Psacharopoulos, 1991, Psacharopoulos & Woodhall, 1985). It was argued that unless the policy environment for TVET was reformed further investment would be an inefficient use of scarce resources (Middleton *et al.*, 1991). It was argued that investment in basic education provided a much higher rate of return than did investment in secondary (including vocational) and post-basic education and this shift in emphasis provided an economic rationale for emphasising primary education within the MDGs. As a consequence of these criticisms funding for TVET dried up with TVET now accounting for just 8-9% of World Bank educational spending (McLean, 2011).

More recently, and in the context of the shift from the Washington to the Post-Washington consensus (see Robertson *et al.*, 2007b), proponents of human capital theory have begun to complement a continued interest in rates of return with an interest in education's role in alleviating poverty and promoting social welfare, including women's welfare, as a basis for promoting growth and human security. There has also been a recognition of the need to prepare workers for participation in the 'global knowledge economy' and to address the growing skills dividend (incomes differential) between skilled and unskilled workers. As the world moves towards a post-2015 educational agenda, there is an increasing emphasis on learning rather than simply access to basic education. For example, Vegas and Petrow (2008), writing about Latin America, argue that "expansion of educational opportunities has not markedly reduced income inequality, underdevelopment and poverty, possibly because of the poor quality of education". Hanushek and Wößmann (2007) conclude that there is a statistically and economically positive effect of the quality of education on economic growth that is far larger than the association between quantity of education and growth. They suggest that quality, as measured by student achievement on standardised tests, correlates more strongly with economic growth than simply years spent in education.

Priorities are also currently widening to include secondary and post-basic levels of education and training in order to equip populations of low and middle income countries with skills for participation in the 'global knowledge economy'. These shifts are also linked to a recognition of demographic changes that have seen a growing proportion of the population who are unemployed youth. Reflecting this shift in emphasis, the latest World Bank education strategy (2011) suitably entitled *Investing in People's Knowledge and Skills to promote Development* argues that 'growth, development, and poverty reduction depend on the knowledge and skills that people acquire, not the number of years that they sit in a classroom' (World Bank, 2011: vii). In a similar vein, DfID have recently argued that:

The evidence is strong. In the technology literature, microeconomic case studies have identified the critical role of educated workers in the innovation process, and industry-level studies have found new technology to be complementary with the education of the workforce. Human capital studies have also

shown that educated farmers and workers are more productive in a rapidly changing environment, and thus earn higher incomes (DfID, 2008: 8).

The new emphasis on skills for growth has led exponents of human capital theory to suggest different kinds of policy solutions. These are summarised in the latest World Bank strategy. On the one hand and in keeping with the findings of previous reports there is an emphasis on supporting system reform through system assessments, impact evaluations and assessments of learning and skills (including not only basic literacy and numeracy but also a range of further skills including ICT, critical thinking, problem solving and team skills). The Bank has expanded its definition of education systems to include not just public schools, universities, and training programs but ‘the full range of learning opportunities available in a country, whether they are provided or financed by the public or private sector (including religious, nonprofit, and for-profit organizations). An education system thus includes formal and nonformal programs, plus the full range of beneficiaries of and stakeholders in these programs: teachers, trainers, administrators, employees, students and their families, and employers’ (World Bank, 2011: ix). The Bank is also committed to supporting a multi-sectoral approach including the health and social protection sectors. This expanded definition of an education system and of cross sectoral working is significant because it has the potential to encompass a range of contexts within which skills training is potentially delivered and the significance of a number of sectors for supporting skills acquisition and learning.

The Bank is committed to supporting greater accountability. According to human capital theory, increased accountability within a more diversified and market led system is perceived as a means to improve the overall efficiency of the system (Anderson, 2008). Accountability will be achieved through not only more careful monitoring of learning outcomes at different stages of the expanded education and training system to better monitor the development of learning and of skills but through an emphasis on support for institutional governance. At a system level national governments will be held more accountable through the use of results-oriented financing with different sets of performance indicators used to monitor progress of countries at different stages of development.

### **The human capital approach in practice: a tale of two countries**

The human capital approach has been by far influential at the level of government policy. Singapore and Ghana provide contrasting examples of how a broadly human capital approach has informed policy in relation to TVET and serve to illustrate the strengths but also some of the limitations.

#### **Singapore**

Law has provided an excellent account of the development of TVET in Singapore (Law, 2010). He argues that a major factor behind Singapore’s economic success has been the ability to align policy shifts in TVET with economic development. This is in keeping with the successful approach adopted by other South East Asian ‘tiger’ economies (Green *et al.*, 2007). The system of TVET has been able to respond to sometimes rapid changes in the direction of economic policy. For example, following independence the first vocational institute along with the industrial training board

were established specifically to meet the manpower planning needs of a rapidly industrialising society but during the 1970s as the government sought to attract Multi-national Corporations (MNCs) the emphasis shifted towards meeting the needs of the MNCs through the establishment of Joint Government Training Centres and 'science parks' for fostering knowledge exchange and innovation. In 1979 the government embarked on a major economic restructuring towards higher value-added, high technology and more capital-intensive industries including petrochemicals, biotechnology, information technology and manufacturing services. Once again TVET was expanded and restructured to respond to the needs of the more capital-intensive industries. A Continuing Education and Training system was introduced focusing on reskilling those members of the workforce with lower education and skills. With the introduction of the Economic Plan in 1991 a component of the strategy was to introduce a minimum of ten years of basic general education as it was felt that a primary school education was no longer sufficient for those who were to pursue vocational skills. The Institute of Technical Education (ITE) was also introduced. This laid the basis for the move to a knowledge-intensive economy during the 2000s based on new growth sectors including Biomedical Sciences, Info-Communications, Creativity Technology, Integrated Resorts and High-Value Engineering. To meet these challenges the ITE has effectively rebuilt and transformed the system of vocational institutes into regional colleges. It is held up by the Education Minister as the 'shining jewel' in the education system. Related to Singapore's success Law argues has been the ability of the government through the work of the ITE to shift public perceptions of TVET. As in many former colonised countries the colonial system had been academically biased and there was little attention paid to TVET before Singapore's independence in 1965. Vocational subjects have until quite recently been held in lower esteem than academic ones but this perception is rapidly changing as a result of the government's sustained efforts.

Despite its obvious successes in supporting economic growth, a criticism that has often been levelled at Singapore's education system is that it is too specialised, rigid and elitist. A consequence is that whilst Singapore does exceptionally well in international assessment exercises such as TIMS this success has often been attributed to an emphasis on rote learning. It is claimed that graduates of the system are not taught to think creatively and critically and this can potentially stifle both innovation and the potential for democratic citizenship in the context of an authoritarian state (Tan & Gopinathan, 2000). More recently the government has introduced a range of initiatives to stimulate creativity in the curriculum and this in line with World Bank thinking about the importance of team building, problem solving and communication skills for example. It will be instructive to see how these initiatives develop and the impact of these on Singapore's longer term ability to innovate.

### **Ghana**

As was the case in Singapore, the system of education inherited by the post-independent government of Ghana was biased towards academic subjects. Since the 1950s Ghana has made a number of attempts to reform the education system put in place by the British colonial administration, driven by the desire to make it more relevant to its needs as a developing economy (Akyeampong, 2002). Under colonialism there had developed a system of trade schools that were linked to providing skills for the global economy. Following independence from Britain in 1957, the Government of Ghana's strong commitment to developing human resources

was consolidated by the 1961 Education Act that made education free and compulsory at the basic level and by 1970 Ghana had one of the most highly developed education systems in West Africa. The late 1970s and early 1980s, however, saw a sharp economic decline with a dramatic fall in the real value of government financing for education resulting in near collapse of the education system. As a key component of its plan for economic recovery, the government initiated the 1987 Education Reform Program (ERP). A key feature of the 1987 ERP was the diversification of the secondary school curriculum to include technical and vocational subjects. Under the 1987 education reforms Ghana's basic education cycle was changed to six years of primary and three years of junior secondary schooling, followed by a three-year senior secondary cycle and a tertiary sub-sector comprising polytechnics, universities and professional training institutions such as Teacher Training Colleges. At the junior secondary school (JSS) level, the reforms introduced pre-vocational skills program that all JSS students were expected to study. The diversification of the secondary curriculum was much more extensive at the Senior Secondary School (SSS) level than JSS. A significant feature of the diversified SSS curriculum is the opportunity it offers students studying different programs to select from a menu of general education subjects considered foundational in their program.

There have been several criticisms leveled at Ghana's system of TVET. Part of the problem has been an historic lack of resources devoted to basic infrastructure and materials and qualified teachers to support such an ambitious approach to TVET expansion. In general vocational education continues to be perceived to be of a lower status than academically-oriented education, a phenomenon that has not changed much since Foster's original work in Ghana on the 'vocational school fallacy' (King & Martin, 2002). Linked to this phenomenon is that universities have often not recognized vocational qualifications achieved from SSS. Akyeampong argues that one possible reason for the fact that public perceptions of TVET have not markedly changed is that there has been a tendency in the past for the government not to consult with stakeholders such as teachers, schools and parents as to the nature and objectives of vocational secondary education reform (Akyeampong, 2010).

A second major criticism is that Ghana's system has historically been more supply-rather than demand-driven with the implication that the relevance and quality of vocational education has often been questioned. For example, although most of the employment opportunities for young people lie in the informal sector the government has not prioritised the development of this sector including the development of skills that can support micro-enterprises. As Akyeampong (2010: vii) notes, today global and local economies are much more dynamic and competitive with the informal and private sectors playing important roles. The challenge for the future of TVET in Ghana is how it can respond to markets that are highly competitive and dynamic, and how it can produce graduates with skills that can respond to demands of the local and global networks of production, technology, and trade.

There are also related issues of access in Ghana, particularly for girls in some areas of TVET (Palmer, 2009). Evidence suggests that overall, most informal apprentices are males training in traditionally male trades (e.g. carpentry, auto-mechanics and welding), while young women have less opportunities in apprenticeship; those opportunities that do exist for women are usually in traditionally female trade areas for which the market demand is often limited. The educational and gender

fragmentation of informal apprenticeship training suggests that the poor, and especially poor women, are less able (either through cost, education level or gender) to be able to access the more dynamic and, potentially, more lucrative trade areas under the present status quo.

There are several criticisms that have been levelled at a human capital approach to TVET some of which are highlighted in the above examples. Firstly, the underlying view of development is a limited one. As exponents of sustainable development and of capability theory approaches argue, whilst economic growth is important it is not an end in itself and human centred development needs to be conceptualised more holistically than simply in terms of increases in GDP and in a way that incorporates environmental, social and cultural factors. Singapore is an example of a country that despite doing very well in linking TVET to a developmental pathway, has focused up until quite recently on developing a rather narrow set of instrumentalist skills. Related to this criticism is that rather than see education and skills as a good in themselves, exponents of human capital theory prefer to see them as an objective factor in production.

There is often a positivistic bias in human capital inspired writing and research and the lack of an overt normative framework for engaging with issues such as inequality and marginalisation. Thus although human capital theorists do recognise forms of inequality in relation to education and skills this is perceived as a problem only in so far as it impacts on national growth rates (Wils *et al.*, 2005). As we have seen in relation to Ghana, some groups including girls have not had equal access to TVET opportunities. This may indeed impact on economic growth more broadly because a potentially highly productive sector of the workforce is not being adequately developed. The issue, however, is more than simply about the negative implications for productivity. The denial of equal opportunities to participate in TVET also impacts on the ability of women to maintain independent and sustainable livelihoods. In this sense issues of poverty, disadvantage and marginalisation from opportunities to develop skills should not simply be seen simply as an obstacle to growth but normatively, in terms of the rights and entitlements that are being denied through lack of equal access to quality vocational education and training.

It is easy to read off from human capital theory a simplistic and linear understanding of the relationship between skills, employment and economic growth. A common assumption in the past is that provided the supply side of the skills equation is right, then employment and growth will follow. In this regard there is growing recognition within human capital theory itself of the significance of demand side issues, of the rapidly changing nature of labour markets and the limited opportunities that exist for skilled as well as unskilled workers in many low and middle income countries (DfID, 2008, Hanushek & Wößmann, 2007). The cases of Singapore and Ghana outlined above serve to illustrate the importance of linking the supply of skills through TVET to sometimes rapidly changing demands within the economy. A key facet of Singapore's success in achieving sustained growth over time has been its ability to link skills development to an overall long term growth strategy including different areas of economic and social policy and straddling government departments (Green *et al.*, 2007, Tikly *et al.*, 2003). This has not been the case in Ghana or indeed in many other African countries where policy has been much more fragmented and with limited articulation with changing economic needs (African Union, 2007). In Ghana's



case, although it has managed to maintain levels of economic growth since the late 1980s (and in contrast to many other African economies) it is argued that this may not be sustainable in the global era without a more coherent skills development strategy (African Palmer, 2009, Union, 2007).

Other critics have highlighted the cyclical rather than linear nature of economic development and the impact of global economic crisis on labour markets and employment and poverty reduction in the global era (King, 2009, Tikly & Barrett, 2009). In this regard and for a number of reasons, Singapore has been able to leverage its natural geographical and historical advantages as an entrepôt as it has gone through successive stages of industrialisation and export-driven growth, whilst Ghana's development has been more linked to the export of primary commodities and to the vagaries of international markets. Ghana has, as a consequence, been more prone to economic crisis and has had to undertake periods of major adjustment with implications for poverty. In this context, TVET policy in Ghana has been much more obviously geared towards poverty alleviation through seeking to support sustainable livelihoods although with varying degrees of success.

In this respect human capital theory often assumes a 'one size fits all' approach to education and skills. For example, many of the policy prescriptions and conditionalities imposed by the Bank as part of structural adjustment and poverty reduction strategies in the 1980s and 1990s often involved a common set of policy prescriptions regardless of context (Robertson *et al.*, 2007a). Similarly, there is often the assumption that integration into the global knowledge economy requires similar kinds of skills sets. This is not necessarily the case. Countries pursue different growth paths in relation to development. Thus even two countries at a similar stage of development may have quite different needs in terms of skills development. For example, a comparative study of Rwanda and of Tanzania revealed overlapping but different skills needs linked to different development priorities (Tikly *et al.*, 2003). A further driver for the new emphasis on skills has been the growing recognition of the informal sector for supporting livelihoods and growth (Adams, 2011, King & Martin, 2002 for example). Studies of the informal sector in different African countries, however, reveal diverse skills needs and modes of delivery linked to context (Adams, 2011, King & McGrath, 2002, McGrath, 2002).

Finally, the over-reliance on standardised assessments of cognitive learning within the human capital approach can also be problematic (see Barrett, 2009 for a fuller critique of this). Readily measurable cognitive outcomes shift from being privileged indicators of learning to defining what skills are required in development. This is potentially damaging for the development of TVET because of the range of cognitive, affective and practical skills that are involved. When this happens, qualitative indicators and scrutiny of processes can also be overlooked (Alexander, 2008).

### **TVET and sustainable development**

The sustainable development approach is the dominant approach within UNESCO. Like the human capital approach it has evolved over time. The notion of sustainable development dates back some 20 years to the Brundtland Commission which used it to connote an approach to development that ‘meets the needs of the present without compromising the ability of future generations to meet their own needs’ (WCED 1987: 43). A key driver for the concept of sustainable development is to develop a human centred response to globalisation that is based on principles of environmental, economic and social sustainability. According to Fien and Wilson (2005) and in contrast to the economic approach, sustainable development is more of a ‘moral precept than a scientific concept’ (274). It is a ‘culturally-directed search for a dynamic balance in the relationships between social, economic and natural systems – a balance that seeks to promote equity between the present and the future, and equity between countries, races, social classes and genders. The interdependence of people and the environment requires that no single development or environmental objective shall be pursued to the detriment of others. The environment cannot be protected in a way that leaves half of humanity in poverty. Likewise, there can be no long-term development on a depleted planet’ (274).

Sustainable development became part of a new paradigm for TVET that was adopted at the International Conference on TVET in Seoul, Korea in April 1999. It is a central plank of the Bonn declaration on TVET (UNESCO, 2004) and there has been discussion to add TVET to the UNESCO Education for Sustainable Development Initiative (McLean, 2011). According to Fien and Wilson (2005) there are a number of ways to reorient TVET to address the sustainability of the economy, the environment and society in the global era. Competencies in economic literacy, sustainable consumption and managing small enterprises are emphasized in relation to the economic aspects whilst using resources wisely and minimizing waste and pollution are considered central to ensuring environmental sustainability. As both a consumer and a producer of resources, and as the focus of training for resource-intensive industries, such as agriculture, mining, forestry, construction, manufacturing, tourism, etc., TVET is considered to have multiple responsibilities in the area of environmental sustainability, including developing an understanding through the TVET curriculum of a range of environmental concepts, encouraging reflection on the effects of personal values and lifestyle choices, and promoting critical thinking and relevant practical skills. Preparation for sustainable livelihoods is considered a particular responsibility of TVET whilst social sustainability involves the development of an ethic of social responsibility in firms and organizations, as well as in the actions of individual workers. According to Fien and Wilson, promoting such an ethic requires TVET to ‘attend to issues of gender and ethnic equality in the workplace, the development of team and group skills, the ability to explain, justify and negotiate ideas and plans, and the promotion of practical citizenship in the wider community’ (277) (see also Fien *et al.*, 2009a, Fien *et al.*, 2009b, Majumdar, 2007, Majumdar, 2009). However, it is acknowledged that efforts to define exactly what sustainable development is must reflect the varying conditions in different parts of the world and their impact upon national and cultural priorities and values. For example, for an individual living in rural poverty in the developing world, “sustainable

development”, if it is to make any sense, must mean increased consumption and a higher living standard. By contrast, to an individual in a wealthy country, with a closet full of clothes, a pantry full of food and a garage full of cars, “sustainable development” could mean more modest and carefully considered consumption (UNESCO in Fien & Wilson, 2005: 274-277).

There are many examples of initiatives that have been sponsored by UNESCO and other agencies and supported by national governments linked to environmental, economic and social dimensions of education and sustainable development (see for example contributions to Fien *et al.*, 2009b, Mclean, 2010). These examples illustrate the extent to which the concept of sustainable development has been linked with a variety of issues and concerns over the years with implications for TVET. For instance, since the Seoul conference sustainable development has been linked with the concept of lifelong learning which is perceived as a means to promote sustainable economies and livelihoods in the context of the advent of the information age and knowledge economy. Further, in the context of concerns with growing youth unemployment, the growth of the informal sector and the failure of basic education to impact even basic skills there have been calls for TVET to be included within a conception of education for all (Hughes, 2005). More recently, the sustainable development approach has been linked to issues of human security (Alkire, 2003, Paris, 2001). For example, basic adult literacy for women is seen as a way of promoting children’s health and wellbeing and reducing mortality rates (Scott-Goldman, 2001, Sen, 2002). Imparting life skills through basic education is a means for preventing HIV/AIDs and for peace building in post-conflict societies (Barrett *et al.*, 2007, Mclean, 2010). There has also been a growing concern within UNESCO with the marginalisation of women and girls from TVET to support sustainable livelihoods<sup>1</sup> (Macleane, 2010, Maclean & Wilson, 2011).

It is clear that the sustainable development approach links to key priorities and concerns for UNESCO. It is presented as a human-centred alternative to the narrow instrumentalism of human capital approaches. It provides a valuable normative lens through which to perceive TVET’s contribution to development. It has also proved enduring and flexible in its ability to frame debates about TVET in relation to a range of emerging issues and concerns. Nonetheless, it is possible to criticise aspects of the approach. To begin with the concept of sustainable development is rather vague. It appears to be ‘all things to all people’ and is therefore difficult to pin down and to quantify and, as a consequence to hold governments accountable for. With relatively few exceptions the examples of education for sustainable development in the literature take the form of projects at the local or institutional level rather than being integrated into national policy and mainstream practice.

Linked to this, despite the concern with understanding sustainability in relation to the interests of different individuals and groups living in different contexts, the *process* underlying how this might be achieved is not specified. In the absence of discussion as to how the experiences and perspectives of individuals and groups can be brought

---

<sup>1</sup> See for example the gender issues and TVET website at [http://www.unevoc.unesco.org/tvetipedia.0.html?&tx\\_drwiki\\_pi1%5Bkeyword%5D=Gender%20issues%20and%20TVET](http://www.unevoc.unesco.org/tvetipedia.0.html?&tx_drwiki_pi1%5Bkeyword%5D=Gender%20issues%20and%20TVET).

to bear on issues of sustainability that affect their lives and what they choose to value there is a danger that the idea of sustainability can appear prescriptive rather than inclusive and context sensitive. Further, as King has remarked (2009) there are tensions between the idea of TVET for sustainability and creating the wider macroeconomic conditions of growth under which TVET itself can become sustainable in the current global financial context in which TVET remains under-funded. There appears little in the debate about TVET and sustainable development that addresses this tension. Finally, a review of the existing literature suggests that although there has been an increased concern with issues of disadvantage and marginalisation in TVET including disadvantage based on gender, social class, rurality, ethnicity, language, religion and disability this aspect remains relatively under-developed.

### **Sen, Nussbaum and Human Capabilities**

The capability approach has been developed by Sen (for example 1999, 2009) and Nussbaum (for example 2000, 2006) as a means for reconceptualising human development. Although still in its infancy compared to the approaches outlined above, it has already achieved a degree of influence, for example through Sen's contribution to the UN's Human Development Index. Sen starts with an alternative view of the goals of human development compared to those suggested by human capital theory. For Sen, it is the realisation of human capabilities and wellbeing rather than the pursuit of wealth that should underpin development. Thus whilst prosperity and growth are important their significance lies in the extent to which they can contribute to the realisation of valued capabilities. Capabilities are the opportunities that individuals have to realise different 'functionings' that they may have reason to value (Sen, 1999, Sen, 2009). Expanding this understanding, Walker argues that

A capability is a potential functioning; the list of functionings is endless. It might include doings and beings such as being well nourished, having shelter and access to clean water, being mobile, being well-educated, having paid work, being safe, being respected, taking part in discussions with your peers, and so on. The difference between a capability and functioning is like one between an opportunity to achieve and the actual achievement, between potential and outcome (Walker, 2006 p.165)<sup>2</sup>.

Whilst Sen and Nussbaum identify education and skills as having an instrumental value in terms of supporting livelihoods, generating income and reducing human insecurity they are also seen as having a great deal of intrinsic worth as capabilities in their own right<sup>3</sup>. Thus the capabilities developed through TVET may include literacy

---

<sup>2</sup> Walker goes on to give some useful examples that assist in distinguishing capabilities from functionings. Thus she distinguishes mobility (a capability) from actually being able to move around (a functioning). Similarly she separates the capability of literacy from the function of actually reading and the capability of being well educated from acting and being a well educated person.

<sup>3</sup> Thus one of Nussbaum's ten core capabilities includes that of 'senses, imagination and thought' – 'being able to use the senses, to imagine, think, and reason – and to do these things in a truly 'human'

and numeracy and the ability to apply basic scientific knowledge but they are not reducible to these and may relate to a wider range of cognitive, affective and practical outcomes.

Central to the concept of capabilities is the idea of ‘agency freedom’ i.e. that individuals can act to bring about changes that they value. Thus although the development of capabilities through TVET might involve the provision of basic resources including, for example food to meet nutritional needs, suitably prepared and motivated educators, appropriate learning materials, a relevant curriculum and an accessible built environment etc. capabilities also imply the freedom and opportunities that individuals are provided with through TVET to convert whatever resources they may have at their disposal into achievements or outcomes of different kinds. The view of agency freedom has implications for the way that TVET is potentially understood and evaluated because a key role for TVET becomes one of supporting the development of autonomy and the ability to make choices rather than simply providing individuals with the necessary resources to learn. Thus according to Unterhalter:

...the capability approach urges that when making evaluations in education we should look not just at inputs like teachers, hours in class, or learning materials or outputs, earning from a particular level of education – be these earnings, that is a form of resources – or preference satisfaction – doing what is best for the family as assumed in human capital theory. Evaluations should look at the condition of being educated, the negative and positive freedoms that sustain this condition and the ways in which being educated supports what each and every person has reason to value (Unterhalter, 2007: 75).

The idea that TVET should be aimed at developing capabilities that individuals, communities and society at large have reason to value draws attention to the central importance of context in the capability approach. It also draws attention to the processes by which capabilities might be determined. For Sen this necessarily involves a commitment to informed public dialogue as a cornerstone for identifying capabilities. A key implication of this is that marginalised as well as mainstream groups have their voices heard in the policy process.

In emphasising the importance of public dialogue the capabilities approach potentially deepens and extends the sustainable development approach. Like the sustainability approach the capabilities approach draws attention to the importance of the wider moral imperative for providing TVET, and the importance of groups within civil society as well as the state in developing and realising this imperative through their own commitments and actions (see Robeyns, 2006b). Implicit in Sen’s notion of capabilities, however, is that this moral imperative needs to relate to the experiences and values of individuals and communities in different contexts and can only be arrived at through processes of informed public dialogue at different levels. In this

---

way, in a way informed and cultivated by an adequate education, including, but by no means limited to, literacy and basic mathematical and scientific training’ (2000: 78-9).

view capabilities can also be seen as the ethical basis of rights in education (Brighouse, 2000) in that they provide form and substance beyond what is written in international law and policy frameworks such as the Convention on the Rights of the Child, the Millennium Development Goals and the Dakar framework for Action. In this sense capabilities potentially involve the realisation of a range of opportunities rather than simply guaranteeing a basic entitlement. This means not only paying attention to the negative freedoms such as the rights of learners not to be subject to corporal punishment or for girls to be educated without fear of sexual harassment but to the promotion of positive freedoms such as capabilities of learners to contribute towards peace in their schools and communities, to learn in their mother tongue and a language of wider communication or to be able to experiment creatively with ICTs.

Sen's work also assists in developing understanding of the implications of multiple, overlapping forms of disadvantage. Evaluating equality in terms of capabilities requires a prior recognition of different types of disadvantage and of how they interact in different settings if misrecognition of a learner's capabilities and rights in education is to be avoided. Although Nussbaum and other exponents of the capabilities approach have argued the importance of identifying universal, core, basic capabilities against which inequalities can be evaluated and governments held to account, Sen has steered clear of such an approach, preferring instead to emphasise the diversity of capabilities linked to individual differences and differences in context.

For example, Sen is careful to emphasise how different economic, cultural and political barriers can prevent disadvantaged groups (such as disabled or women or girl learners) from converting whatever resources they may have at their disposal into capabilities and useful functionings (Sen, 2009). This is also to acknowledge that an individual's capability set (the sum of the opportunities that a learner will require to achieve whatever he or she chooses to value in later life) will differ depending on forms of disadvantage including rurality, gender, disability, ethnicity, sexual orientation etc. and the wider social relations of power and inequality that give rise to disadvantage become deeply implicated into the very notion of capability. Thus a learner with a disability may require a different or slightly modified capability set from an able bodied learner. Similarly, a female learner's capability set may be influenced by sexist norms and practices that deny her access to certain curriculum areas or prevent her from going out alone or protect her from sexualised violence (see also Walker, 2006).

Capabilities are also embedded in broader processes of development and each has pursued differing developmental paths with implications for the kind of capabilities that will be required at an individual or aggregate level. In a recent comparative study of Tanzania and Rwanda, for example, a range of capabilities were identified that are required to support quite different proposed development pathways (Tikly et al, 2003). Capabilities are, in this sense, relative. They are also contested with different interests defining capabilities in different ways and potential conflicts between individually and collectively identified capabilities and between aggregative and distributive considerations (Sen, 2009).

Understanding the social embeddedness and contextualised nature of individual capabilities is important in the debate about TVET where it is often appropriate to understand educational needs in terms of groups of learners as a basis for determining

priorities and targeting interventions. As part of his approach Sen makes use of social choice theory as a means for developing policies that are based on an aggregated evaluation of the needs of different individuals and groups (Sen, 1998)<sup>4</sup>. This is also to acknowledge that capabilities inevitably need to be defined at different scales and levels of abstraction from the individual, including the level of global, regional and national policy frameworks but then how these are mediated and implemented locally in relation to the needs of individuals and the communities in which they are located. In this respect, it is the process of arriving at appropriate capability sets in any context that is critical<sup>5</sup>.

Implicit in Sen and Nussbaum's understanding of capabilities is a commitment to social justice. Sen (2009) has recently elaborated his view of 'comparative justice' which he claims is about real-world choices to improve human lives. In this view making hard policy decisions, e.g. about the goals of TVET, which areas of TVET to prioritise and who should have access to TVET inevitably involves dealing with competing value claims that can only ultimately be resolved through processes of informed public dialogue at different levels. This point is taken up below.

### **Potential implications of a capabilities approach for TVET policy and practice**

Whilst the above outline of a capabilities and social justice approach was largely theoretical, the focus in this section is to try to begin to relate the approach to key aspects of the debate on TVET and development that have arisen in the discussion of dominant approaches in previous sections. Two caveats are necessary. The first is that the capability approach should not be seen as providing ready made answers to the policy issues and challenges facing the TVET sector today. Rather, like the human capital and sustainable development approaches, it should be seen as a way of framing issues and as a starting point for evaluating policy choices. Related to this is the fact that capability theory is still in its infancy. Thus although Sen's work has been influential in policy terms (e.g. through his contribution to the development of the UN's Human Development Index) the implications of his and Nussbaum's work are still in the process of being fleshed out for education in general and TVET in particular. As Robeyn's (2006a: 352-3) has succinctly put it, capability theory is best perceived as a broad normative framework for the analysis of policy rather than providing policy prescriptions per se:

---

<sup>4</sup> Such an approach stands in contrast to the use of rational choice theory in mainstream economics which provides the philosophical underpinning for human capital inspired reforms. Here the assumption is that individuals act on the basis of a rational assessment of the maximisation of their own utility and that efficiency within the public welfare system is best served through maximising 'choice'.

<sup>5</sup> Here Robeyns (2003) has usefully identified five criteria for the process of selecting capabilities (i) that it should be explicit, discussed and defended; (ii) that the method should be clear; (iii) that the level of abstraction of the list should be appropriate; (iv) that the list comprises two stages, an ideal list and pragmatic or non-ideal list; and (v) the listed capabilities should not be reducible to each other. Similarly, Alkire, S. (2005b) Why the capability approach? *Journal of Human Development and Capabilities*, 6(1), 115-135. has contributed to thinking through issues with respect to operationalising the capabilities approach. For both scholars the capability approach is very conducive to participatory undertakings of the kind undertaken by Walker, Biggeri *et al.* and Alkire herself.



The capability approach is a broad normative framework for the evaluation and assessment of individual well-being and social arrangements, the design of policies, and proposals about societal change. It can be used to empirically assess aspects of an individual's or groups' well-being, such as inequality or poverty. It can also be used as an alternative to mainstream cost-benefit analysis, or as a framework to develop and evaluate policies, ranging from welfare state design in affluent societies, to development policies by governments and non-governmental organisations in developing countries. It can also be used as a normative basis for social and political criticism. The capability approach is not a theory that can explain poverty, inequality or well-being; instead, it provides concepts and a framework that can help to conceptualize and evaluate these phenomena.

With these caveats in mind, the discussion below is intended as being exploratory in nature and should itself be seen as a contribution to debate on the future of TVET.

### *Rethinking the nature of TVET*

A capabilities approach allows for an expanded view of the purpose of TVET as supporting the development of human capabilities and functionings that individuals, communities and society at large have reason to value. This suggests that there can be no single purpose for TVET. The range of capabilities that individuals have reason to value and that make up an individual's capability set will depend on need and circumstance. Key here is the idea of agency freedom – that individuals need to be empowered to exercise their agency through being granted access to information and opportunities to participate in TVET. The way that the purpose of TVET is defined at an institutional and societal level must rest on an aggregated evaluation of the needs of different individuals and groups (see below). The upshot is that the purpose of TVET will inevitably embrace a range of economic, social and cultural objectives depending on context.

The capability approach also suggests an alternative way of thinking about the nature of TVET. TVET is often perceived as a means for developing a range of skills, aptitudes and competences. In the language of capabilities these translate broadly into functionings – ways of 'doing' and 'being'. The idea of capabilities adds to existing conceptions of TVET through drawing attention to the opportunities and freedoms (capabilities) that lead to the development of these functionings. This has implications for access and inclusion issues as is discussed below.

Understanding TVET through the lens of capabilities also allows for a reconsideration of existing binaries, e.g. between 'vocational' and 'academic' or between 'indigenous' and 'modern'. Placing the onus on what is valued in different contexts shifts the focus away from old debates about the nature and status of different forms of knowledge to focus on the real world needs of individuals and communities. This opens up potential for public debate to focus on how different forms of knowledge including indigenous knowledge can be used to address contemporary issues. This is in keeping with UNESCO's own emphasis on recognising the potential role of indigenous knowledge in relation to development (UNESCO, 2005).



Capabilities also allow for a reconceptualisation of TVET as a sector. Understanding capabilities as opportunities to learn across the life span draws attention to the relationship between different modes and levels of education. This is evident, for example in debates about how best to support literacy and numeracy and life skills including access to basic and post-basic forms of provision and in different kinds of institutional and workplace settings. From a capability perspective it is therefore more helpful to think about the education system holistically rather than in terms of discrete sectors. Here there are overlaps with the more holistic approach to conceptualising the education system outlined in the latest World Bank document albeit from a different conceptual starting point.

### *Inclusion and diversity in TVET*

A human capabilities and social justice approach draws attention to an aspect of the TVET debate that is being given increasing attention by UNESCO, namely inclusion and diversity. Sen and Nussbaum see education and especially literacy as an unqualified good for human development lending support to those who have argued that access to TVET should be thought of as an entitlement (Hughes, 2005). From a capabilities perspective a key issue is the access that different individuals and groups have to good quality TVET and the opportunities they have for achieving desired outcomes. It has implications for how resources for a quality TVET are distributed but also, the recognition of socio-cultural identities of different groups of learners, which influence how they develop valued capabilities.

A capabilities approach implies a focus on the institutional and cultural barriers that prevent inclusion of different groups. Girls and women, for example, often come up against sexist norms and practices that limit their involvement in TVET (UNESCO, 2011). These need to be understood in relation to broader societal barriers that discriminate against women and girls (Unterhalter, 2007) There is evidence that learners with disabilities, members of minority ethnic groups and speakers of minority languages also often encounter forms of discrimination that not only limit access to TVET but also limit their opportunities for learning once they are enrolled in programmes (McLean, 2010). This is a rather under-researched area and there is scope here for further research to identify the barriers to inclusion facing different groups of learners.

For example, learners who have an identifiable disability, or who are affected by HIV/AIDS may benefit from targeted resource inputs such as complementary extra-curricular programmes or changes to the built environment. Existing research has indicated that girls, particularly at post-primary levels, require greater investment in sanitary facilities (UNESCO, 2005). Materials provided need to be appropriate to the curriculum, environment, learners' cognitive level, their language proficiency(ies) and multiple socio-cultural identities (see Heugh, 2002, Rubagumya, 2007). Learning materials, however, do not work in isolation to enhance learning outcomes for different groups but rather are dependent on and need to be compatible with teachers' pedagogic practices, professional values and language proficiency(ies). Teacher education, training, continuing professional development and professional morale all circumscribe what it is possible to achieve in the classroom. Effective systems of professional support that create accountability and autonomy are vital for developing teachers' capabilities that in turn, enable them to enhance learning opportunities for

students (for a systematic application of the capability approach to teachers see, Avalos, Forthcoming, Tao, 2010).

### **A capabilities approach and existing UNESCO initiatives**

Although UNESCO and UNEVOC documents do not make reference explicitly to capability theory, aspects of a capability approach are clearly implicit in many existing projects and programmes. The projects outlined below are taken from a recent overview provided by Mclean (2010). Between them they can be seen to exemplify the expanded view of sustainable development to embrace issues such as gender, livelihoods, ethnicity and peace building. The implications of the projects from a capabilities perspective, however, are discussed below.

- *Education of Girls (China)*. Projects in Ganzu Province, China, are concerned with increasing the participation of girls in schools in rural areas, to attract them to attend school and to reduce the high drop-out rate amongst girls. They are also concerned with values education, since the aim is to encourage families and the local community to value the education of girls.

- *Education of demobilised and physically challenged soldiers, with particular reference to youth (Afghanistan and Timor Leste)*. These projects focus on skills development for employability, with particular reference to assisting demobilised soldiers, especially youth soldiers, achieve gainful employment in civil society. Assistance is also provided for soldiers and others who are physically challenged due to the problem of land mines.

- *Values education for community development (Afghanistan and Philippines)*. In Afghanistan radio was used to produce a soap opera about family and community life which became a very popular ‘must listen to’ programme throughout the country. This programme promoted values such as the importance of the role of women in the family, and the importance of girls education. In the Philippines, APNIEVE has developed with UNESCO-UNEVOC a manual for teachers on values education, that is concerned with promoting desirable values in the workplace and in particular the need to counteract the widespread problem of xenophobia.

- *Educating street children to become functionally literate (India)*. Promoting functional literacy for the world of work, with particular reference to street children. This has been achieved by assisting youth to establish and operate modest bicycle repair businesses, using micro-credit, as an incentive to developing literacy, and enterprise/entrepreneurship skills.

- *Information and communication technologies to support rural populations (Thailand)*.

Use of computers in rural schools and adult learning programmes using satellite communications in communities with no supply of electricity, through using solar panels to provide electricity. This has enabled learning to continue, between the intermittent visits of teachers, who are part of the ‘teachers on horseback’ programme.

- *Vocationalisation of secondary education (Marshall Islands)*. This project has involved assistance to the Ministry of Education to rewrite the countries Education Act to make the education system more relevant to meeting the employment needs of

the country, with particular reference to skills development for the employability of young people. This had involved the vocationalisation of secondary education, to help fill the skills gap, reduce the problem of youth unemployment and less dependence on foreign workers who generally repatriate their income to support family back in their home country.

- *Skills development in the water and sanitation industry to improve health (Vietnam).* UNESCO-UNEVOC, with overseas development agencies in Germany, Norway and Vietnam has developed a multi-million dollar training-the-trainers project to equip technicians to work in the water and sanitation industries in Vietnam. This project is designed to impact positively on poverty alleviation, and is part of UNEVOC's EFA and Lifelong Learning initiatives.

Each project described by Mclean can be seen to be addressing aspects of a capability approach. Each involves developing the capabilities of different marginalised groups – girls in the case of the Ganzu project in China, young soldiers in the case of Afghanistan and Timor Leste for example. Each also involves paying attention to the context within which capabilities are being developed which impact on the kinds of opportunities to develop skills that are made available: skills to support sustainable livelihoods in the case of the young soldiers; literacy skills in the case of the street children; ICT skills in the case of adult learners in Thailand; a broader range of vocational skills in the case of the Marshall Islands; and, quite specialised skills in the case of the sanitation workers in Vietnam to promote health.

Each project also involves the targeting of resources in order to meet the needs of marginalised groups. In some cases this may be perceived as ensuring access to what ought to be a basic entitlement, for example in relation to the street children in India or the girls in Ganzu, China. Importantly, however, and in keeping with the view of capabilities and social justice put forward by Sen, the examples also illustrate how targeting of resources needs to often go beyond a simple view of basic entitlement. This is to acknowledge that in order to develop the desired capability set, to recognise forms of inequality and to overcome existing barriers to participation may require resources over and above what might be termed a basic entitlement.

Some of the examples also place an emphasis on values – overcoming gender stereotypes in the case of the Chinese girls for example or in the use of values education to promote social cohesion in the Philippines and Afghanistan. This raises important issues from a capabilities perspective about the values and the extent to which they have emerged from processes of informed public dialogue. Although this appears to be the case in the examples given a capabilities approach would demand that this aspect be made more explicit. In some cases, such as the girls' education project in Ganzu, this would involve discussion of the inevitably difficult issues raised in challenging entrenched sexist norms and values and developing consensus in relation to the need to develop the girls' capabilities. A capabilities approach would also demand a more explicit basis for evaluating the development of capabilities with attention given to how capabilities are identified and measured (see below).

For exponents of human capital theory the point of planning lies in creating greater efficiency and effectiveness in the use of scarce resources measured in relation to defined performance indicators. In these terms the latest World Bank strategy gives some useful pointers for how donors can support system reform in a way that can assist governments to plan more effectively. From a human capabilities perspective however, the efficiency of a system whilst important needs to be evaluated against a more holistic set of criteria (below). It also draws attention to sometimes neglected areas of planning. For example, a nuanced understanding of the different kinds and levels of resource input required by different groups of learners is critical for enabling education planners to effectively target resources and interventions where they are most needed. This kind of targeting is rare in many low income contexts in particular where existing Education Management Information Systems (EMIS) are often inadequate for the task, or where an appearance of uniform distribution of access to education is seen as supporting a government's legitimacy. Besides potentially assisting in understanding how resources can be distributed between different kinds of TVET systems, research into the kinds of resource inputs required by different groups of learners can assist policy makers to better understand not only how resources can be more effectively distributed between institutions but *within* institutions as well (Aikman and Unterhalter, 2005).

A key debate at present centres on how TVET can be financed, particularly in times of global financial uncertainty and crisis and in which governments and donors find it difficult to make long term commitments to the sector. Capability theory does not in itself provide a standard set of 'solutions' about how different kinds of public and private finance may be generated in the way that, say human capital theory does. A capability approach can, however, provide a normative basis for evaluating the impact of different kinds of funding mechanisms in terms of social choice theory and a comparative assessment of their likely impact on the capabilities of individuals and groups (Sen, 2009).

### *A public debate on TVET*

Central to a capability approach is the idea of informed public debate as a means of determining capabilities at different levels of the system. This opens up a number of challenges at different levels. A starting point is to evaluate the processes and mechanisms by which policy relating to TVET is determined and how these reflect different interests within the state, civil society and globally (Robertson *et al.*, 2007a). It is important that local perspectives and voices predominate in debates about national TVET priorities. The international aid community has a role in this respect to develop leadership capabilities and ownership of educational agendas to ensure that they reflect local realities and priorities and breaking the cycle of dependency on donors including the reliance on overseas technical expertise in writing policy (Tikly & Dachi, 2009). It is this ability to autonomously determine TVET policy and to link it to a view of the national interest and to an overall development strategy that has characterised emerging economies that have successfully globalised (Green *et al.*, 2007). Increasingly the regional level has also been an important space in which educational priorities and agendas have been contested in Africa (Tikly & Dachi, 2008).

A second challenge arises from the recognition that not all those with an interest in TVET share what Chisholm (2004) has described as an equal 'social voice'. For

example, key interest groups such as teachers and their organisations have often not been consulted and in some cases have been actively discouraged from participating in the policy making process. Yet, engaging the perspectives and experiences of educational professionals in decision making is particularly important because of their role as change agents (DFID & VSO, 2008). Other constituencies and interests including women, the poor, rural dwellers, indigenous peoples, members of religious and cultural minorities and learners themselves have also often remained excluded. In some countries organisations within civil society have played a proactive role in demanding that their concerns be recognised. Public debates around the right to a good quality TVET potentially provide an important focus for elaborating the wider ethical and political issues involved. It is in the context of this kind of discussion that debates about the economic rationale for investing in different forms of TVET or about the importance of sustainable forms of development become relevant. Mobilising marginalised groups around educational issues requires an educative effort on the part of the state and civil society including the media and this effort needs to take place using a variety of modalities and at a number of scales.

Norms and values are of course contested. Some traditional values, for example in relation to gender, may appear irreconcilable with social justice in that they reinforce stereotypes and barriers to achievement for women and girls. However, debate over values within the TVET sector is a necessary and healthy indicator of a broader social democratic capability, the touchstone being the realisation of individual freedoms including those of girls, cultural and other minorities. Agencies such as UNESCO potentially have a crucial role here in facilitating debate and sharing good practice between countries.

### *Evaluating TVET*

Sen and other scholars working with a capability approach have advanced thinking of how indicators relevant to measuring the development of capabilities might be specified (Sen was instrumental in developing the UN's Human Development Index, for example, which included a range of indicators linked to capabilities and wellbeing). They are evident in UNESCO's Education Development Index (EDI) which uses indicators related to access (enrolments), quality (survival rates to grade five), outcomes (literacy rates) and gender parity. Nonetheless, Unterhalter and Brighouse (2007) have drawn attention to the difficulties associated with the EDI and existing Education Management Information Systems (EMIS) related to the unreliability of data and of data collection processes. An issue for TVET is that many of the indicators are biased towards basic education reflecting current global priorities. There is scope for further development and research to construct an index that is more reflective of the range of capabilities that are developed through TVET.

It is beyond the scope of the present paper to outline what such an index might look like. It is in keeping with Sen's idea of the capability approach that an index of this type would need to emerge from processes involving research and public dialogue. Thus whilst traditional data collection techniques remain important, scholars working within a capability approach have drawn attention to the potentially significant role of more participative approaches to collecting relevant data such as those used by NGOs, where the process as well as the data itself that can be used to evaluate capabilities. Alkire (2005a), Robeyns (2006) and Walker (2006) have both also drawn attention to the use of interdisciplinary research and mixed methods to capture the range of

capabilities in a field such as education. For example, participative research methodologies including action research can play an important role in identifying capabilities either on their own terms or when considered in relation to different sources of information (Walker, 2005a). This is consistent with recent development within the UNDP to develop the Human Development Index and within UNESCO to make use of both quantitative and qualitative indicators to measure cultural development (UNESCO, 2005).

A key issue in putting a capabilities approach into practice is the difficulty of choosing between different capabilities to measure out of the range of capabilities that might be valued by individuals and groups in different contexts. Robeyn's (Robeyns, 2006a: 356) has contributed to the debate through suggesting procedural criteria for the selection of capabilities: explicit formulation (the list should be made explicit, discussed and defended); methodological justification (the method that generated the list should be clarified, scrutinized and defended); different levels of generality (if a selection aims at an empirical application or is intended to lead to implementable policy proposals, then the list should be drawn up in at least two stages, whereby each stage will generate a list at a different level, ranging from the level of ideal theory to more pragmatic lists); and exhaustion and non-reduction (no important capabilities should be left out). She argues that this method has been successfully applied in a number of applications, including her own studies on gender inequality in affluent societies and Walker's study on educational policy making in South Africa (Walker, 2005b).

### **Evaluating human capabilities**

The capabilities approach and the Human Development Index

Although it is beyond the scope of the paper to describe in detail what an index for measuring capabilities in TVET might look like it is useful to review existing efforts to develop indices of capabilities. Further work on developing capabilities relevant to TVET might use these examples as a useful point of departure.

#### **The UNDP's Human development Index**

Fukuda-Parr (2003) has provided a useful account of the process of developing the Human Development Index. The HDI was established through the work of Mahbub ul Haq and Amartya Sen. It was conceptualised as a simple combined measure of human development was necessary for convincing policy-makers, academics and the general public that they should evaluate development in relation to advances in human well-being and not only by economic growth. As Fukuda-Parr argues, Sen was initially concerned by the difficulties of capturing the full complexity of human capabilities in a single index. But he was persuaded by Haq's insistence that only a single number could shift the attention of policy-makers from material output to human well-being as a real measure of progress.

The HDIs developed at country level but also the HDIs disaggregated by region and by group (e.g. ethnic group) served to focus the minds of policy makers on basic human capabilities including the capability to survive and be healthy, to be knowledgeable, and to enjoy a decent standard of living. They provoked policy-makers to examine how countries with similar income levels managed to fare quite differently in relation to this broader understanding of human development. In this

regard, the comparison of a country's HDI rank with its GDP per capita rank became just as important as the HDI itself as a measure of a country's human development.

A key issue in developing the HDI was the choice of capabilities to be included. The range of human capabilities is potentially infinite and the value that individuals assign to different capabilities can vary by person and from one community to another according to context. This realisation drew attention to the process of determining capabilities. HDRs have used two criteria in deciding which capabilities are most important. Firstly, they must be universally valued by people across the world and second, they must be basic, meaning their lack would foreclose many other capabilities. The capability approach has, however, deliberately remained open-ended in the choice of capabilities, letting them vary over time and place. In this way it contrasts with the basic needs approach, which listed the important human needs without an explicit explanation justifying the selection and without providing a rationale for who should be making the list. It also contrasts with other work using the capability approach, such as Nussbaum's efforts to finalize a list of essential capabilities (Nussbaum, 2000). As a tool for evaluating development, the HDRs had to focus simply on those capabilities that are universally valued and "basic" (i.e., capabilities on which many choices in life depended), reflected in the three HDI capabilities: to be knowledgeable, to survive, and to enjoy a decent standard of living.

A second major issue that arose in devising the HDI was whether it should reflect equity. Conceptualized as a measure of average achievements, the HDI does not take into account the distribution of capabilities, which ignores equity. Concerns about equity have focused on gender disparities along with those based on class, ethnicity, or rural/urban residence. Some argued that to combine a distribution measure with an average achievement measure would present problems of incommensurability of data. It was also recognised that forms of disadvantage and accompanying disparities vary from one context to another. Given these difficulties, as Fukuda-Parr has argued, 'the HDI remains a measure of average achievement and its strength lies in its simplicity: a simple measure is more understandable to the policy maker and the public, sending a clear message about what makes the measure go up or down' (Fukuda-Parr, 2003: 306). From the beginning, however, attempts were also made to develop supplementary measures that adjust the HDI by gender disparity, showing that even if two countries have the same average achievement in terms of HDI, this average may hide differences with respect to gender disparity. Eventually, the Gender-Related Development Index (GDI) was developed which adjusts the HDI for gender disparity.

### **Defining children's capabilities**

Biggeri et al. undertook a study (Biggeri *et al.*, 2006) that allowed children to define their capabilities as the basis of a bottom-up strategy for understanding the relevant dimensions of children's well-being. The subjects of this research were children participating in the 'Children's World Congress on Child Labour' held in Florence in May 2004, organized by the Global March against Child Labour and other associations. Children were invited to interact and express their opinions on the most relevant issues related to their childhood and adolescence. The study was premised on a view of children not simply as recipients of freedoms, but also as participants in the process of delineating a set of core capabilities. Child delegates were selected through consultation processes at the national and local levels. Most of these delegates were former child labourers, who benefited from education and vocational training in



rehabilitation centres or local civic organizations. Some children were still working to pay for their school fees. Recognising the danger that adults might use children to promote their goals, the team thought it important to establish clear principles and ground-rules. A strongly collaborative environment was created avoiding any form of interference. Congress delegates were invited to identify a list of relevant capabilities for children and to express their thoughts on the most important issues related to childhood and adolescence. The team were inspired by Sen's insistence on the importance of the process for defining capabilities, the concept of human agency freedom and in particular in the degree of autonomy in the process of choice. In developing this new bottom-up process, the team focused on what children think they should be able to do and be. In the process the participants were encouraged to separate himself/herself from their specific life experience. The child delegates — although elected by other children through a democratic consultation process — were not expected to be considered representative of all the world's children. However, Biggeri et al argue that the sample was both selective and of high quality, 'not only in virtue of having important characteristic of being delegates representing other children, but also because they acquired a high level of consciousness through their life experiences, especially through their participation in NGO activities' (Biggeri *et al.*, 2006: 62).

### **Defining a capability set for adolescent girls in South Africa**

Extending Nussbaum's earlier efforts to identify ten core capabilities, Walker (2006) has usefully identified a range of eight capabilities linked to education that she has developed through her reading of Sen, Robeys and Nussbaum and through her own engagement and research in the South African context from a gender perspective. Starting from an analysis of education policy in South Africa and from the existing literature, Walker developed a provisional list of capabilities. She then sought to 'ground' the list in the context and experiences of those whom the list concerned, namely South African girls. She sought information stemming from the lives of the girls drawing on my interviews with 40 girls aged 15 to 16 years old. She then engaged with other lists of capabilities, searching out those elements which might apply specifically to education to see what overlap existed. The final stage involved debating the list with others. The capabilities developed by Walker in her study are worth listing here as they give an indication of the scope of possible capabilities that might arise from this kind of research and that have a bearing on TVET policy. They include autonomy (being able to have choices); knowledge (that is both intrinsically interesting and has an instrumental value); social relations (being able to operate socially); respect and recognition (self-confidence and self-esteem, respect from others); aspiration (motivation to learn and succeed); voice (for participation in learning); bodily integrity and bodily health; and emotional integrity and emotions.

### **Conclusion: Towards a framework for understanding TVET and human development**

This final section will draw together some of the above discussion and present a framework for reconceptualising TVET and development that draws on aspects of each of the above approaches. It starts from a more holistic view of human development that has emerged from capability theory. A potential starting point for UNESCO for reconceptualising the purpose of TVET is in relation to how human development is conceived in the UNDP's Human Development Reports. Alkire



(2010), has summarised how the concept is currently operationlised in these reports drawing on capability theory:

Human Development aims to expand people's freedoms – the worthwhile capabilities people value – and to empower people to engage actively in development processes, on a shared planet. And it seeks to do so in ways that appropriately advance equity, efficiency, sustainability and other key principles.

People are both beneficiaries and the agents of long term, equitable human development, both as individuals and as groups. Hence Human Development is development by the people of the people and for the people (Alkire, 2010: 44).

Alkire (2010: 15) has also listed the dimensions of human development that have been discussed in successive HDRs, namely:

Health and Life  
Education  
Decent Standard of Living  
Political Freedom & Process Freedoms  
Creativity and Productivity  
Environment  
Social & relational  
Culture & Arts

Although the list is not intended to be exhaustive and will differ (in keeping with Sen's view of capabilities) according to context it does provide a possible starting point based on almost 20 years of Human Development Reports for beginning a debate about a role for TVET in relation to development. Further, it can be argued that TVET could be said to have a particularly significant role compared to other levels and sectors of education precisely because of its scope, its direct links with processes of innovation, production and sustainable livelihoods, the concern with education across the life span and with non-traditional as well as traditional groups of learners. Indeed, one way of conceptualising the purpose of TVET that is consistent with this broad view of human development is to enable all learners and across the life span to develop capabilities that can contribute to economic growth, sustainable livelihoods, democratic societies and wellbeing.

It will be noted that the view of human development draws on and extends some of the key issues raised by human capital and sustainable development approaches. One way of thinking about this in relation to TVET is that whereas an appreciation of human capabilities can provide an overall rationale for TVET policy this does not negate traditional human capital or sustainable development concerns but recasts these in relation to an understanding of human capabilities, agency freedom and social justice. In this respect, investing in skills to support growth and sustainable livelihoods can be perceived as potentially contributing to the realisation of capabilities and wellbeing and this provides a basis against which policies relating to these goals can be evaluated. Concerns about sustainable development equity, diversity and inclusion that are currently shaping contemporary debates within

UNESCO and the broader TVET community can act as a starting point for thinking about the normative basis for TVET policy. Underlying this approach however, would be a commitment to ongoing processes of democratic debate about what constitutes desired capabilities and the values that should underpin policy and TVET policy in particular.

## References

- Adams, A. (2011) Skills development in the informal sector of sub-saharan africa, in: R. M. A. D. N. Wilson (Ed.) *International handbook of education for the changing world of work: Bridging academic and vocational learning*. cxiii-cxxxv.
- Akyeampong, K. (2002) *Vocationalisation of secondary education in ghana: A case study*. Report for World Bank (Washington).
- Akyeampong, K. (2010) *50 years of educational progress and challenge in ghana*. Report for CREATE RPC, University of Sussex (Sussex).
- Alexander, R. (2008) *Education for all, the quality imperative and the problem of pedagogy, create research monograph no. 20*. Report for University of Sussex (Brighton).
- Alkire, S. (2003) *A conceptual framework for human security*. Report for Centre for Research on Inequality, Human Security and Ethnicity, CRISE (Oxford).
- Alkire, S. (2005a) Why the capability approach? *Journal of Humand Development and Capabilities*, 6(1), 115-135.
- Alkire, S. (2005b) Why the capability approach? *Journal of Human Development and Capabilities*, 6(1), 115-135.
- Alkire, S. (2010) *Human development: Definitions, critiques and related concepts*. Report for UNDP (New York).
- Anderson, D. (2008) Productivism, vocational and professional education, and the ecological question. *Vocations and Learning*, 1(2), 105-129.
- Anderson, D. (2009) Productivism and ecologism: Changing dis/courses in tvet, in: J. Fien, R. Maclean & M.-G. Park (Eds) *Work, learning and sustainable development*. (vol. 8), Springer Netherlands), 35-57.
- Avalos, B. B., A. (Forthcoming) Teacher professionalism and social justice, in: L. B. Tikly, A. (Ed.) *Education quality and social justice in the south: Challenges for policy, practice and research*. London, Routledge).
- Bank, W. (2011) *Learning for all: investing in people' s knowledge and skills to promote development: world bank group education strategy 2020*. Report for World Bank (Washington).
- Barrett, A., Ali, S., Clegg, J., Hinostroza, E., Lowe, J., Nikel, J., Novelli, M., Oduro, G., Pillay, M., Tikly, L. & Yu, G. (2007) *Initiatives to improve*

- the quality of teaching and learning: A review of recent literature.*  
Report for.
- Biggeri, M., Libanora, R., Mariani, S. & Menchini, L. (2006) Children conceptualizing their capabilities: Results of a survey conducted during the first children's world congress on child labour. *Journal of Human Development and Capabilities*, 7(1), 59-83.
- Brighouse, H. (2000) *School choice and social justice*, (Oxford, Oxford University Press).
- Chisholm, L. (Ed.) (2004) *Changing class: Education and social change in postapartheid south africa*, (Pretoria, HSRC).
- Dfid (2008) *Jobs labour markets and shared growth: Trends and issues.*  
Report for DfID (London).
- Dfid & Vso (2008) *Listening to teachers: The motivation and morale of education workers in mozambique.* Report for UK DFID/Voluntary Service Overseas (VSO) (London).
- Fien, J., Goldney, D. & Murphy, T. (2009a) Rethinking development: As if the planet and its people really mattered, in: J. Fien, R. Maclean & M.-G. Park (Eds) *Work, learning and sustainable development*. (vol. 8), Springer Netherlands), 19-33.
- Fien, J., Mclean, R. & Park, M. (Eds.) (2009b) *Work, learning and sustainable development: Opportunities and challenges*, (Netherlands, Springer).
- Fien, J. & Wilson, D. (2005) Promoting sustainable development in tvet:&lt;sup&gt;1&lt;/sup&gt; the bonn declaration. *Prospects*, 35(3), 273-288.
- Foster, P. (1965) The vocational school fallacy in development planning, in: A. A. Anderson & M. J. Bowman (Eds) *Education and economic development*. Chicago, Aldine), 142-166.
- Fukuda-Parr, S. (2003) The human development paradigm. Operationalizing sen's ideas on capabilities. *Feminist Economics*, 9(2-3), 301-317.
- Green, A., Little, A. W., Kamat, S., Oketch, M. & Vickers, E. (2007) *Education and development in a global era: Strategies for 'successful globalisation'*, (London, DfID).
- Hanushek, E. A. & Wößmann, L. (2007) *Education quality and economic growth*, (Washington DC, The World Bank).
- Heugh, K. (2002) *The case against bilingual and multilingual education in south africa, praesa occasional paper no. 6.* Report for Project for the

- Study of Alternative Education in South Africa (PRAESA) (Cape Town).
- Hughes, P. (2005) Why access to tvet for all is essential if education for all is to be achieved. *Prospects*, 35(3), 253-267.
- Ilon, L. (1994) Structural adjustment and education: Adapting to a growing global market. *International Journal of Educational Development*, 14(2), 95-108.
- King, K. (2009) Education, skills, sustainability and growth: Complex relations. *International Journal of Educational Development*, 29(2), 175-181.
- King, K. & Martin, C. (2002) The vocational school fallacy revisited: Education, aspiration and work in ghana 1959-2000. *International Journal of Educational Development*, 22(1), 5-26.
- King, K. & Mcgrath, S. (2002) *Globalisation, enterprise and knowledge: Education, training and development in africa*, (Symposium Books).
- King, K. & Palmer, R. (2008) *Skills for work, growth and poverty reduction*. Report for UK National Commission for UNESCO/ British Council (London).
- Law, S. (2010) *Case study on "National policies linking tvet with economic expansion: Lessons form singapore"*. Report for UNESCO (Paris).
- Maclean, R. (2010) The power of education: Lifelong learning for sustainable development, peace building and the end of poverty. *Chair Professors Public Lecture Series*. Hong Kong, Hong Kong Institute of Education.
- Maclean, R. & Wilson, D. (2011) Introduction *International handbook of education for the changing world of work: Bridging academic and vocational learning*. Netherlands, Springer), lxxiii-cxii.
- Majumdar, S. (2007) Integrating sustainable development in the tvet curriculum. Columbo Plan Staff College, Phillipines.
- Majumdar, S. (2009) Major challenges in integrating sustainable development in tvet, paper presented at the *International Experts Meeting on REORIENTING TVET POLICY TOWARDS EDUCATION FOR SUSTAINABLE DEVELOPMENT*, City.
- Mcgrath, S. (2002) Skills for development: A new approach to international cooperation in skills development? *Journal of Vocational Education & Training*, 54(3), 413-430.
- Mclean, R. (2010) The power of education: Lifelong learning for sustainable development, peace building and the end of poverty. *Chair Professors Public Lecture Series*. Hong Kong, Hong Kong Institute of Education.

- McClean, R., Wilson, David (2011) Introduction *International handbook of education for the changing world of work: Bridging academic and vocational learning*. Netherlands, Springer), lxxiii-cxii.
- Middleton, J., Ziderman, A. & Van Adams, A. (1991) *Vocational and technical education and training: A world bank policy paper*. Report for World Bank (Washington).
- Nussbaum, M. (2000) *Women and development: The capabilities approach*, (Cambridge, Cambridge University Press).
- Nussbaum, M. (2006) *Frontiers of justice: Disability, nationality, species membership*, (Cambridge MA, Belnap Press).
- Palmer, R. (2009) Skills development, employment and sustained growth in Ghana: Sustainability challenges. *International Journal of Educational Development*, 29(2), 133-139.
- Paris, R. (2001) Human security: Paradigm shift or hot air? *International Security*, 26(2 (Fall, 2001)), 87-102.
- Psacharopoulos, G. (1991) Vocational education theory, voiced 101: Including hints for [ ]vocational planners'. *International Journal of Educational Development*, 11(3), 193-199.
- Psacharopoulos, G. & Woodhall, M. (1985) *Education for development: An analysis of investment choices*, (Washington DC, World Bank).
- Robertson, S., Novelli, M., Dale, R., Tikly, L., Dachi, H. & Ndibalema, A. (2007a) *Globalisation, education and development: Ideas, actors and dynamics*, (London, Department for International Development).
- Robertson, S., Novelli, M., Dale, R., Tikly, L., Dachi, H. A. & Alphonse, N. (2007b) *Globalisation, education and development: Ideas, actors and dynamics*, (London, DFID).
- Robeyns, I. (2006a) The capability approach in practice. *Journal of Political Philosophy*, 14), 351-376.
- Robeyns, I. (2006b) Three models of education: Rights, capabilities and human capital. *Theory and Research in Education*, 4(1), 69-84.
- Rubagumya, C. (2007) *A three-tier citizenship: Can the state in Tanzania guarantee linguistic human rights? Edqual working paper*. Report for EdQual (Bristol).
- Scott-Goldman, J. (2001) *Literacy programmes and sustainable livelihoods*, (DFID/IDS).
- Sen, A. (1999) *Development as freedom*, (Oxford, Oxford University Press).

- Sen, A. (2002) "Basic education and human security." a background paper prepared for the kolkata meeting., paper presented at the *Kolkata meeting on human security*, City.
- Sen, A. (2009) *The idea of justice*, (London, Penguin).
- Tan, J. & Gopinathan, S. (2000) Education reform in singapore: Towards greater creativity and innovation? *NIRA review*, 7(3), 5-10.
- Tao, S. (2010) *Applying the capability approach to school improvement interventions in tanzania*, *edqual working paper*. Report for EdQual (Bristol).
- Tikly, L. (2004) Education and the new imperialism. *Comparative Education*, 40(2), 173-198.
- Tikly, L. & Barrett, A. M. (2009) *Social justice, capabilities and the quality of education in low income countries*, *edqual working paper no. 10*. Report for EdQual (Bristol).
- Tikly, L. & Dachi, H. (2009) Social justice in african education in the age of globalization, in: W. Ayers, T. Quinn & D. Stovall (Eds) *Handbook of social justice in education*. Oxford, Routledge), 120-137.
- Tikly, L. & Dachi, H. A. (2008) The new regionalism in african education: Possibilities and limitations for developing south-south collaboration, in: L. Chisholm & G. Steiner-Khamisi (Eds) *South-south co-operation and transfer in education and development*. New York, Teachers College Press).
- Tikly, L., Lowe, J., Crossley, M., Dachi, H., Garrett, R. & Mukabaranga, B. (2003) *Globalisation and skills for development in rwanda and tanzania*. Report for DfID (London).
- Unesco (2004) *Learning for work, citizenship and sustainability: The bonn declaration*. Report for UNESCO (Paris).
- Unesco (2005) *Convention on the protection and promotion of the diversity of cultural expressions*. Report for UNESCO (Paris).
- Unesco (2011) *Gender issues and tvet*. Available online at: [http://www.unevoc.unesco.org/tvetipedia.0.html?&tx\\_drwiki\\_pi1%5Bkeyword%5D=Gender%20issues%20and%20TVET](http://www.unevoc.unesco.org/tvetipedia.0.html?&tx_drwiki_pi1%5Bkeyword%5D=Gender%20issues%20and%20TVET)).
- Union, A. (2007) *Strategy to revitalize technical and vocational education and training (tvvet) in africa*. Report for (Ethiopia).
- Unterhalter, E. (2007) *Gender, schooling and global social justice*, (London & New York, Routledge).
- Unterhalter, E. & Brighouse, H. (2007) Distribution of what for social justice in education? The case of education for all by 2015, in: M. Walker &

- E. Unterhalter (Eds) *Amartya sen's capability approach and social justice in education*. New York, Palgrave Macmillan), 67-86.
- Vegas, E. & Petrow, J. (2008) *Raising student learning in latin america: The challenge for the 21st century*, (Washington DC, World Bank).
- Walker, M. (2005a) Amartya sen's capability approach and education. *Educational Action Research*, 13(1), 103-110.
- Walker, M. (2005b) Amartya sen's capability approach and education. *Educational Action Research*, 13(103-110).
- Walker, M. (2006) Towards a capability-based theory of social justice for education policy-making. *Journal of Education Policy*, 21(2), 163-185.
- Wils, A., Carrol, B. & Barrow, K. (2005) *Educating the world's children: Patterns of growth and inequality*, (Education Policy and Data Center).
- World Commission on Environment and Development (Wced), O. U. P., Oxford. (1987) *Our common future*, (Oxford, Oxford University Press).